

REMARKS

Claims 1-6 were examined. Claims 1-4 stand rejected, while claims 5 and 6 were noted to contain allowable material. In response to the above-identified Office Action, Applicants amend claims 1 and 5, but do not cancel any claims or add any new claims. Reconsideration of the rejected claims in light of the aforementioned amendments and the following remarks is requested.

I. Claims Rejected Under 35 U.S.C. § 102(b)

The Examiner rejected claims 1-4 under 35 U.S.C. § 102(b) as unpatentable over U.S. Patent No. 4,912,479 issued to Nishimura *et al.* ("*Nishimura*"). It is axiomatic that to anticipate a claim, the reference must disclose each element of the claim. Applicants believe that *Nishimura* fails to disclose each element of the rejected claims, and that it is, in fact, entirely different from the claimed invention.

As to claim 1, that claim recites a microstrip patch array antenna having a plurality of antenna array elements on a two-dimensional plane, wherein the physical arrangement of the elements is specified. *Nishimura*, by contrast, discloses a microwave landing system which generates multipath propagating beams using a phase shifter and a changeover switch.

Nishimura fails to teach a microwave patch array antenna in which the antenna array elements are linearly arranged in a direction of the A axis by spacing a first predetermined distance (D_a) between the elements, and linearly arranged in a direction of the B axis by spacing a second predetermined distance (D_b) between the elements, where a portion of the elements in the array are shifted from their locations in the direction of the A axis by a third predetermined distance ($D_a/2$). In *Nishimura*, there is very little description of the structure of the antenna, beyond the depiction of a number of dipole antennas (element 48 in figs. 4 and 7). The spacing between the antennas is not specified, and it appears that the antennas are laid out in a single row (or column), not in a two-dimensional array (*see* figs. 4 and 7; also fig. 5, where the row of dipole antennas would appear to be oriented vertically along the right side of antenna 1). The antennas are divided into two overlapping groups named "A" and "B," consisting of all the antennas except those located in the first d units of length along the row, or all the

antennas except those located in the last d units of length along the row, respectively. However, *Nishimura* does not suggest that the group A or group B antennas are shifted from their locations by a predetermined distance. In fact, since the groups overlap, it is not possible to displace one group, without also displacing some of the antennas that are in the other group.

For at least the foregoing reasons, Applicants submit that *Nishimura* fails to anticipate claim 1, and respectfully request that the rejection of that claim be withdrawn.

As to claim 2, Applicants are unable to locate the figure 43 mentioned by the Examiner. However, element 43, which appears in several of the figures, is a scanning generator, apparently a device that produces scanning signals to alternately turn on switch units, thus causing either the group A or group B antennas to radiate. This is a *functional* unit that selects one of two different operational modes, not a physical arrangement of microstrip patch array antennas in an array with perpendicular axes.

In addition, claims 2-4 depend upon claim 1, which was shown to be patentable in the discussion above. For at least those reasons, Applicants respectfully request that the Examiner withdraw the rejections of these claims as well.

II. Allowable Material

Applicants note with appreciation that the Examiner determined claims 5 and 6 to contain allowable material. Claim 5 has been amended to correct printing errors in the equations; the current claim correctly sets forth the numbers of antenna array elements in the shifted and unshifted groups, as described in the specification at p. 5, lines 12-20.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 1-6, patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207-3800.

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Respectfully submitted,
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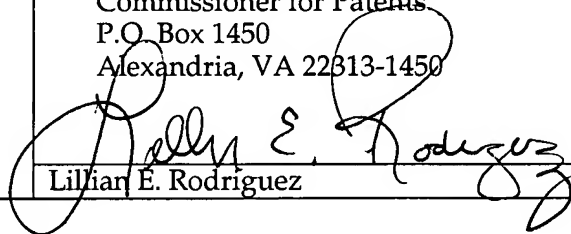
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